



Astrophysics Explorers Program Phase A Concept Study Kickoff Meeting

Welcome and Congratulations!

Wilton Sanders
Astrophysics Explorers Program Scientist
August 24, 2015

Astrophysics Explorers Program Concept Study Kickoff Meeting



Selected Missions

Small Explorer (SMEX)

- SPHEREx - An All-Sky Near-Infrared Spectral Survey – Jamie Bock, Jet Propulsion Laboratory
- IXPE - Imaging X-ray Polarimetry Explorer – Martin Weisskopf, NASA Marshall Space Flight Center
- PRAXyS - Polarimeter for Relativistic Astrophysical X-ray Sources – Keith Jahoda, NASA Goddard Space Flight Center

Mission of Opportunity (MO)

- GUSTO - Gal/Xgal U/LDB Spectroscopic/Stratospheric THz Observatory – Christopher Walker, University of Arizona
 - LiteBIRD - The U.S. Participation in the LiteBIRD Cosmic Microwave Background Polarization Survey – Adrian Lee, University of California, Berkeley
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Phase A Overview

- Full Mission selected teams will conduct 11-month Phase A Concept Studies, funded up to \$1M (real year dollars).
- Missions of Opportunity (MO) selected teams will conduct 11-month Phase A Concept Studies, funded up to \$250K (real year dollars).
- Concept Study Reports (CSRs) will be due July 19, 2016.
- At the end of Concept Studies, NASA will conduct detailed reviews to evaluate the implementation details of the selected investigations, including any modifications of the scientific objectives, and the implementation including all technical and management factors.
- As a result of this Phase A evaluation, one Small Explorer Mission investigation and one MO investigation may be confirmed for Phase B.



Management and Constraints

- Purpose of this meeting is to provide instructions for the Phase A Concept Study.
- Phase A Study deliverables:
 - **Concept Study Report** providing sufficient implementation detail and planning to allow NASA to judge probability of mission success; and
 - **Complete cost or pricing data** for Phase B shall be included with the CSR for each organization. A separate bridge phase price option shall be part of the Phase B cost or pricing data.



Management and Constraints

- **Priced option for Bridge Phase**
 - 5 months for a Full SMEX Mission
 - 4 months for a Mission of Opportunity
- Each mission's Concept Study Report must conclude with a commitment by the PI for the cost, schedule, and scientific performance of the investigation.
- NASA cannot guarantee that the proposed funding profile can be accommodated within the Explorer Program's budget. A funding profile for the selected mission will be negotiated during Phase B.



Procurement

- Proposals must be for complete mission cycle (Phase A-Phase F).
- Solicit science proposals with sufficient implementation information to evaluate risk, expected total cost to NASA, and commitment to other programmatic goals.
- NASA may select one or more Mission investigations and one or more Missions of Opportunity and award contracts for concept studies.
- Each Phase A contract will contain a priced option for Phase B along with a Bridge Phase, to be exercised upon investigation(s) down-selected to proceed into Phase B.
- The Bridge Phase option will allow work to be continued uninterrupted under the contract after a Step-2 down selection decision is made.



Procurement

- The Bridge Phase for full SMEX mission is intended to cover a five-month period of Phase B effort to provide program continuity while negotiations are completed to modify the contract to include Phases B, C/D, and E/F.
 - The Bridge Phase for a MO mission is intended to cover a four-month period of Phase B effort to provide program continuity while negotiations are completed to modify the contract to include Phases B, C/D, and E/F.
 - The Bridge Phase option of Phase B for either SMEX or MO mission will be exercised only on the contract for the mission chosen during the Step-2 downselection process to continue beyond the Phase A concept study.
 - During the Bridge Phase, NASA and the continued project will negotiate and sign a contract modification necessary for the remaining portion of Phase B. Deliverables for Phase B will be negotiated during the Bridge Phase, on the basis of information provided in the Concept Study Report.
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Schedule

- The 11-month Phase A clock will start on 18 August 2015.
- Concept Study Reports (CSRs) will be due on 19 July 2016.
- Wilton Sanders will be the overall chair of the evaluation team.
- Behzad Raiszadeh and Greg Manual (SOMA) will lead the TMC evaluations & coordinate site visits.

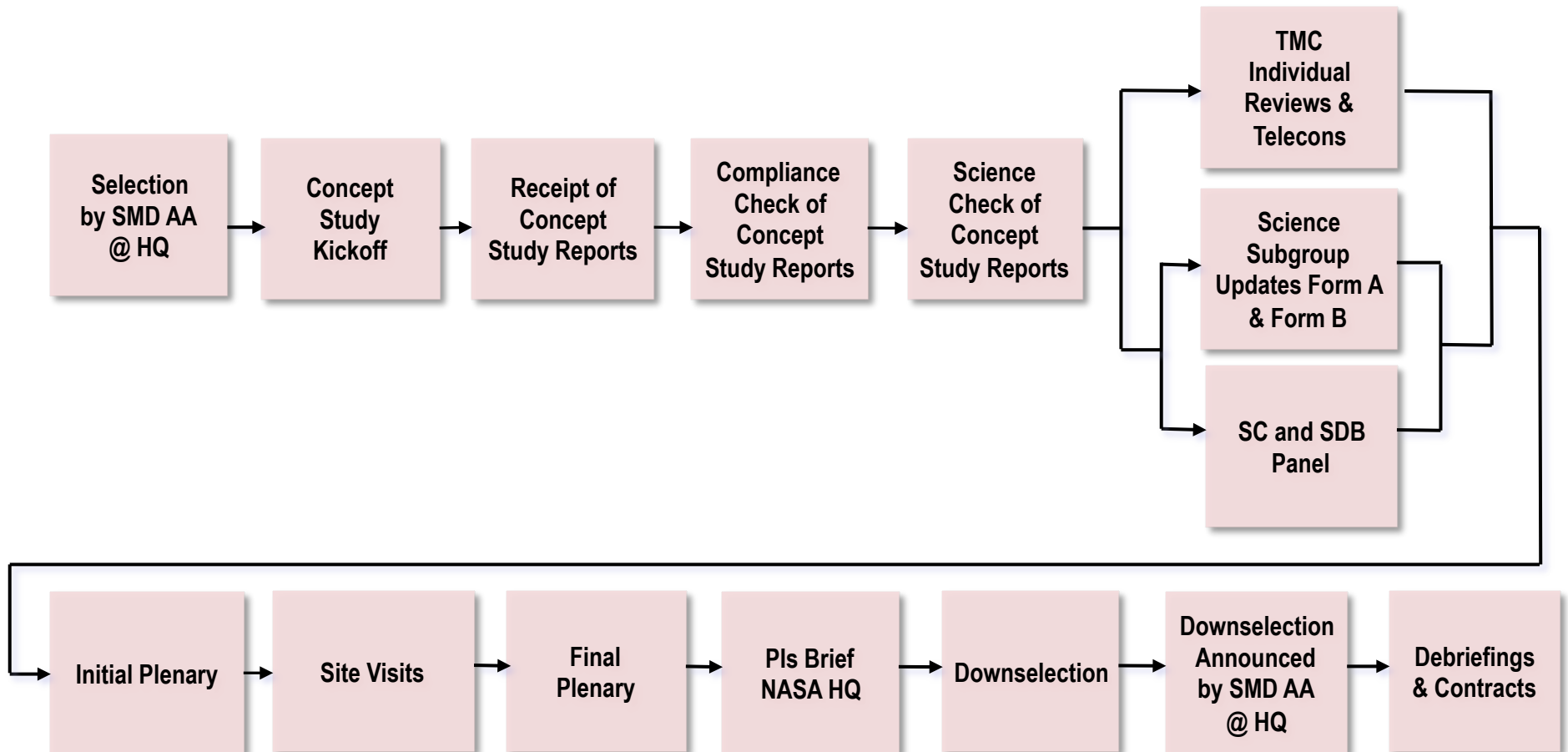


Concept Study Guidelines

- Astrophysics Explorer 2014 Draft Guidelines And Criteria For The Phase A Concept Study may be found at the Explorer Program Acquisition Website
 - http://explorers.larc.nasa.gov/APSMEX/SMEX/pdf_files/4_Guidelines_and_Criteria_for_the_Phase_A_Concept_Study_7-24-14.pdf
- These Draft Guidelines are based on the “Standard CSR Guidelines,” so changes for the final version are expected to be minimal



What Follows Selection?





Major Evaluation Criteria

- All three criteria from the AO or PEA will be used:
 - Scientific Merit
 - Science Implementation Merit
 - Feasibility including Cost Risk
- Weighting between criteria will be different as will individual factors.



Scientific Merit Evaluation Criterion

- Step 1 selections were primarily based on *science balanced by feasibility*. Unless the science has changed, the Phase A evaluation *will emphasize implementation*.
 - Unless directed or CSR results demand it, objectives of BSM/TSM should not change.
 - Science section from Step 1 proposal **must** be repeated in the CSR.
 - Any and all changes must be highlighted (change bars)



Science Implementation Evaluation Criterion

- All of the factors defined in Section 7.2.3 of the SMEX AO or the SALMON-2 AO apply to the Concept Study and will be re-evaluated from the data supplied in the CSR and at the site visit.
 - Site visit is viewed as an update to the CSR
 - Factor additions:
 - Details added to subfactor of Factor B-1
 - Added instrument design subfactor to Factor B-2
 - New Factor B-7: Likelihood of scientific success
 - Renumbered Factor A-3
 - New Factor B-8: Maturity of proposed Level 1 science requirements
 - e.g., Are they quantitative and verifiable?
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Feasibility Evaluation Criterion

- See next TMC presentation...



Additional Criteria

- Overall Merit of Student Collaboration (SC), if proposed
- Small Business Subcontracting Plans



Criteria Weighting

- Scientific merit of the investigation: approximately 25%
- Scientific implementation merit and feasibility of the investigation: approximately 20%
- Feasibility of mission implementation, including cost risk: approximately 50%
- Quality of plans for SDB sub-contracting, and for an optional SC, if proposed: approximately 5%



Competition Conditions

- “Blackout” after the Kickoff Meeting. Communications between Study Teams and the various NASA program offices will be focused to ensure fairness
 - Communications after this meeting will be controlled.
 - Technical and expert advice should be obtained directly from identified Points of Contact (POC’s).
 - All programmatic questions, including questions of policy, questions of interpretation, and questions of clarification, should come to HQ/Wilton Sanders
 - But, NASA does not want to restrict these communications
 - If process outlined by Program Office proves onerous, we will reassess it
- Generic versions of questions and answers will be posted as “Questions and Answers” available from the Explorer Program Acquisition website.



QUESTIONS?



Backup



Explorers Kickoff Logistics

- Plenary Sessions held in Room 396/398, 8:00 – 9:55 AM
 - Dial in # 844-467-6272, passcode 128401
 - WebEx to be provided for Plenary session
- Debrief Sessions in Room 398 and Award Sessions in Room 365 — see posted schedules
- Dial-in to be provided at the start of each Debrief or Award Session
- Breakout rooms are available
- Internet Access—each team will have 2 access codes available to them
- Lunch orders will be taken at the check-in desk
 - Orders need to be placed by 9:30 a.m.
 - Pick-up and pay for lunch outside Room 396



Meeting Agenda

Welcome
Concept Study Overview
TMC Requirements
Explorers Program Office
Mission Assurance
International Relations
Export Control
Launch Vehicles for SMEXs
Questions and Answers

Andrea Razzaghi
Wilton Sanders
Behzad Raiszadeh
Greg Fraizer
Bob Calvo
Jessica Glover
David Flynn
Aly Mendoza-Hill